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UNCTAD's CONTRIBUTION, WITHIN ITS MANDATE, TO SUSTAINABLE DEVELOPMENT: TRADE AND ENVIRONMENT

Trends in the field of trade and environment in the framework of international cooperation

Report by the UNCTAD secretariat

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I. BACKGROUND

1. At the second part of its thirty-ninth session, the Trade and Development Board, taking into account the importance of the theme "Trade and environment", decided to consider a topic under this theme at the first part of each of its annual sessions.[1] The Board further decided to consider the specific issue "Trends in the field of trade and environment in the framework of international cooperation" at the first part of its fortieth session.[2]

2. The Annex to the above-mentioned decision contained a report on the specific plans of the Board for the implementation of Agenda 21, which was submitted to the General Assembly through the Commission on Sustainable Development and the Economic and Social Council. In paragraph 6 of the Annex, the presentation of UNCTAD's work programmes on sustainable development was organized around six sectors: trade, commodities, technology, services, poverty and privatization. This report refers to Agenda 21 and trade. It should be noted that the other sectors, in particular commodities and technology, cover a number of issues which are also relevant in the context of trade and environment. These issues are covered only briefly in the current report.

3. It should also be mentioned that one of the elements of the work programme of the Ad Hoc Working Group on Expansion of Trading Opportunities for Developing Countries is to consider the impact of environmental policies and measures on trading opportunities of developing countries with a view to making recommendations for enhancing those opportunities. This issue will be covered in the report that the secretariat will submit to the Working Group for its meeting from 4-8 October 1993.

4. In the follow-up of UNCTAD VIII and UNCED, it is entirely appropriate to focus the discussions on trade and environment on aspects of international cooperation.[3] Some important conclusions of UNCED are the following:[4]

- Sustainable development requires a dynamic international economy and an open, equitable, secure, non-discriminatory and predictable multilateral trading system, to support sound domestic economic and environmental policies in both developed and developing countries.

- Future growth of developing countries and countries in transition, which is critical for their ability to mobilize resources needed for improved environmental protection, depends, among other things, on access to developed-country markets.

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1 Decision 402(XXXIX).

2 This is the first time that the theme "Trade and environment" has been treated as a single issue in a substantive report presented to the Board. Some topics under this theme were briefly treated in a report on "Sustainable Development: A Consideration of Sectoral Links" (TD/B/39(1)/7), prepared for the first part of the thirty-ninth session of the Board. Progress in the implementation of the secretariat's work on trade and environment was reported in document TD/B/39(2)/CRP.2. In July 1991 the Secretary General of UNCTAD submitted a report on "Environment and International Trade" to the Secretary General of the United Nations Conference on Trade and Development (Document A/CONF.151/PC/48, presented to the third session of the Preparatory Committee of UNCED).

3 As recognized in Agenda 21, for the success of the new global partnership established by States to meet the challenges of environment and development, it is important to overcome confrontation and foster a climate of genuine cooperation and solidarity.

4 See Chapter 2 of Agenda 21 on "International co-operation to accelerate sustainable development in developing countries and related domestic policies", in particular programme areas A and B.

- Trade liberalization, including the removal of existing distortions in international trade, must be pursued to support sustainable-development policies in developing countries.

- Trade and environment should be made mutually supportive in the pursuit of sustainable development.

5. International cooperation is also required to increase coherence between environmental measures and policies implemented by individual countries, and to prevent environmental policies from adversely affecting the economic growth and development prospects of developing countries. As recognized in UNCTAD VIII:

> "International cooperation is (thus) essential, not only for the adoption of a concerted global strategy on environment but also to assist developing countries in implementing plans aimed at sustainable development. Such cooperation should proceed along two main lines: first, aiming at coherence between the various environmental measures and policies implemented by individual countries and, whenever possible, placing them in the framework of broad international or, where appropriate, regional agreements; secondly seeking to prevent detrimental effects of national, regional or international environmental measures on economic growth and development and, through increasingly open trade, appropriate additional financial resources and technological cooperation to support the efforts of developing countries to achieve internationally agreed objectives and to resolve their specific environmental problems".[5]

6. As recognized at UNCTAD VIII and at UNCED, all countries have a common but differentiated responsibility for the main environmental problems. Transborder, regional or global environmental concerns are most effectively addressed through international cooperation, which takes into account the interests and responsibilities of all countries concerned. Such cooperation should be based on Agenda 21 and the Rio Declaration.

7. International cooperation should also aim at achieving a better integration of environmental and trade policy-making at the national and international levels. Greater integration will help prevent policies in one area from having unintended effects on the other area and will help make trade and environment policies mutually supportive. Agenda 21 constitutes a basis for action. The recent OECD guidelines on integrating trade and environmental policies are also useful in this context.[6]

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[5] UNCTAD (1992), A New Partnership for Development: The Cartagena Commitment, paragraph 41.

[6] OECD, Trade and Environment, Paris 1993 (OECD/GD(93)99).

II. INTRODUCTION.

8. The complex linkages between trade and environment constitute challenges in the pursuit of sustainable development as well as potential areas of conflict. The debate on the interface between environmental and trade policies has resulted in increased awareness of the importance of these linkages in both developed and developing countries. It is now recognized that economic and trade policies must better integrate environmental factors and that environmental policy must be sensitive to the needs of the multilateral trading system. The process of consensus building on basic principles and policy guidelines to achieve such integration has begun. However, more empirical work is needed to better understand the interlinkages and further develop policy conclusions.

9. The interface between trade and environment poses theoretical, empirical and political questions. A salient theoretical issue is the role of environmental factors as a determinant of comparative advantage. Environmental costs of production are not equal in all countries. This is because there are differences in natural-resource endowments and in physical assimilative capacities (the ability of the environment to absorb wastes and to render them harmless as well as to regenerate renewable natural resources),[7] and social preferences. Furthermore, goods differ in their relative use of environmental services or in their waste profiles.[8] It thus follows that if environmental costs are fully internalized, differences in environmental endowments and demand for environmental products will be a determinant of comparative advantage (together with conventional factor endowments such as labour and capital) and trade resulting from such differences increases welfare.[9] These issues are further examined in section III.

10. Environmental policies can affect trade in several ways. Environmental measures aimed at production processes may indirectly affect trade through their impact on industrial competitiveness and industrial location decisions. Environmental policies aimed at products may have direct impact on trade; factors such as the costs of compliance with product regulations and consumer preferences for green products are relevant. In some cases environmental-protection measures may act as Non-Tariff Barriers (NTBs) to trade. Conversely, the increased awareness of environmental problems can create opportunities for environmentally-sound products. These are issues requiring more empirical evidence. The effects of such policies are examined at some length in section IV.

11. Section V analyses the use of trade measures for environmental purposes as well as possible alternatives to trade restrictions through international consultations and cooperation.

12. An important policy-related issue is the question of the extent to which harmonization of environmental policies and standards is desirable. This question is examined in section VI.

13. Finally, section VII identifies a number of areas where strengthening of international cooperation may be particularly relevant.

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7 For a complete definition of carrying capacity see Leonard, H.J., 1983, "Environment and Economic Development in the Third World", in Leonard H.J., 1983 (ed.) The Politics of Environment and Development, Office of Environment and Scientific Affairs, the World Bank, Washington DC, and Southgate D, 1988, Economics of Land Degradation in the Third World, Environmental Department Working Paper Number 2, the World Bank.

8 Pearson, C.S., *Regional Free Trade and the Environment*, Paper prepared for the IDB/ECLAC project "Western Hemisphere Trade Liberalization", Washington, October 1992.

9 Horst Siebert, Environmental protection and international specialization, Weltwirtschaftliches Archiv, 1974.

III. LINKAGES BETWEEN TRADE AND ENVIRONMENT- A FRAMEWORK

14. This section provides a framework for the analysis of trade and environment linkages.

A. The relationship between trade and sustainable development

15. The United Nations Conference on Environment and Development (UNCED) has recognized that trade, in conjunction with sound macroeconomic and environmental policies can make an important contribution towards sustainable development. Trade is an instrument of economic growth which increases the resources available for environmental protection. At the same time environmental protection is aimed at preserving and developing the natural and ecological resources which are needed to sustain a continuing expansion of trade.

16. Environmental and trade policies need not conflict with each other. Both aim at increasing welfare by allocating resources efficiently, including environmental resources.[10] If prices reflect the full social cost of environmental protection and resource depletion, trade will contribute to growth which is sustainable. On the contrary, in the case of market or policy failures which result in underpricing of natural resources, increased production for exports may contribute to increased pressure on the natural resource base. In this case trade may not be welfare-increasing and the exporting country may be worse off in the long run. It should be noted that trade restrictions can also contribute to environmental problems. In such cases opening up to trade is precisely what is needed to promote sustainable development. An example may be found in agriculture (see below).

17. The relationship between trade and sustainable development depends on macroeconomic and environmental policies. Historically, when environmental degradation has occurred, unsustainable production methods and unsustainable consumer behaviour will be at the root of the problem. Trade at most operates as a "magnifier".[11] One of the important insights of economic theory is that in order to promote efficient allocation of resources, including environmental resources, market and policy distortions should as far as possible be corrected at their source. Trade restrictions are normally not the best instruments for achieving environmental objectives, and in fact can be counterproductive. Policies which improve the functioning of markets, for example the establishment of appropriate standards and regulations and the effective use of economic instruments, or which create markets, for example through tradeable permits, are much more effective. As countries move towards fuller internalization of environmental-protection costs and resource values there will be changes in production and trade patterns. These changes will enhance welfare.

B. Internalization of environmental costs

18. Trade and environmental experts generally agree that it is desirable to internalize externalities, which is seen as a key to reconciling environmental and trade policies. The Rio Declaration on Environment and Development states in Principle 16 that "National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the costs of pollution, with due regard to the public interest and without distorting international trade and investment". However, there is little practical experience in the identification and measurement of the relevant costs and resource values to be internalized

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[10] Pearson, C.S. and R. Repetto (1992), *"Reconciling Trade and Environment: the Next Steps"*. Paper prepared for the Trade and Environment Committee of the U.S. Environmental Protection Agency.

[11] GATT, Trade and Environment in GATT, in International Trade, 1990-1991, March 1992.

and in the feasibility and practicability of different policy measures to achieve internalization. Much conceptual and empirical work needs to be done in this area.[12]

19. The "internalization of externalities" does not mean that pollution has to be reduced to zero.[13] A certain level of pollution is unavoidable. One approach is to determine an optimal level of environmental protection or a certain target for pollution reduction or environmental improvement. These targets could then be translated into policy measures, aimed at institutional reforms (such as the establishment of property rights or the establishment of liability for environmental damages); improving the functioning of markets; or creating markets where they are non-existent. Section IV provides an overview of environmental policy instruments.

20. The ability of developing countries to internalize environmental costs will be strongly influenced by the conditions under which they are able to export their products. As recognized in Agenda 21, in order to support sound environmental policies in developing countries, international cooperation is needed to remove trade distortions, improve commodity prices and the terms of trade of developing countries, reduce indebtedness and increase financial assistance.

21. Developing countries have been less successful than developed ones in ensuring that export prices reflect environmental costs and resource values. To the extent that environmental costs are reflected in the prices that developing countries must pay for their imports, developing-country consumers bear at least part of the environmental protection costs in other countries. However, if environmental costs in developing countries are not incorporated in the prices of their exports, such costs continue to be borne entirely domestically, largely in the form of damage to human health, property and ecosystems.[14] In this context, internalizing environmental costs could bring additional benefits to developing countries. Assuming that the demand for their natural-resource-based exports is price-inelastic, if most developing countries included the costs of environmental protection in their exports, then consumers in the industrialized world would be paying a larger share of the environmental costs associated with their consumption patterns.[15]

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12 UNCTAD has established a programme of work in this area. See "Natural resources management and sustainable development. A programme for implementation by UNCTAD", Geneva, May 1993.

13 It should be noted that the Polluter Pays Principle (PPP) requires countries only to ensure that the environment is "in an acceptable state". A polit.cal decision at the local, national and international level determines the norms and standards which correspond to an acceptable state of the environment. The PPP allocates pollution costs between the polluter and the community through a political process. The polluter must bear the costs of meeting these norms while the community bears any residual costs of environmental degradation. As a result, standards (both ambient environmental standards and emission standards) may vary as justified by such factors as differences in the pollution assimilative capacities, degrees of industrialization, population densities, or social objectives and priorities attached to the environment (UNCTAD, Policies and Mechanisms for Achieving Sustainable Development TD/B/1304, paragraph 61, Geneva, 1991). It should further be noted that the Rio Declaration on Environment and Development states in Principle 11 that "States shall enact effective environmental legislation. Environmental standards, management objectives and priorities should reflect the environmental and development context to which they apply. Standards applied by some countries may be inappropriate and of unwarranted economic and social cost to other countries, in particular developing countries".

14 The World Commission on Environment and Development, Our Common Future.,p.83.

15 Robert Repetto from the World Resources Institute has observed that if, for example, environmental costs averaged roughly 2 per cent of production costs, as they do in the United States, then US$ 500 billion in annual exports from developing countries would include payments of up to $10 billion by importers, mostly in the industrialized countries to help defray the costs of environmental protection. See Repetto R., *Trade and Environment Policies, Achieving Complementarities and Avoiding Conflicts*, Washington, July 1993.

C. Trade liberalization and sustainable development

22. Agenda 21 has identified a number of factors which may reduce the ability of developing countries to mobilize, through international trade, the resources needed to finance investment required for sustainable development, such as low and declining prices for most commodities and tariff and non-tariff obstacles. In order to achieve sustainable development, these factors need to be addressed through international cooperation and trade liberalization. One important aspect of trade liberalization is increased access to OECD markets, in particular for developing countries. Increased market access, in conjunction with sound environmental policies, would make a positive contribution to sustainable development.

23. Trade liberalization and open economic policies encourage a more efficient allocation of resources by allowing goods, services and investment to flow freely across borders and to respond to market-driven incentives. Open policies also encourage technology to flow more freely and encourage investment in competitive and state-of-the-art production methods.

24. As mentioned in a recent OECD report,[16] "Trade liberalisation can have environmental benefits in removing trade policy distortions that cause environmental degradation and by improving the efficient allocation of the world's resources." This would particularly be the case in the agricultural sector.[17] Reduction of agricultural overproduction in the developed countries may have a positive impact on the environment.[18]

25. Trade liberalization in the area of manufactured products, such as textiles and clothing, could also contribute to sustainable-development policies in developing countries. As mentioned in the Report of the World Commission on Environment and Development, "If developing countries are to reconcile a need for rapid export growth with a need to conserve the resource base, it is imperative that they enjoy access to industrial country markets for non-traditional exports where they enjoy a comparative advantage".[19]

26. However, there can be circumstances where trade liberalization, in the absence of complementary policy measures, may lead to a decline in welfare. If natural resources are underpriced, trade liberalization may have a negative environmental impact. This is not an argument against trade liberalization but rather an argument for carefully evaluating the environmental effects of trade liberalization in order to make the necessary policy adjustments to avoid negative environmental effects. Trade liberalization will contribute to sustainable development if sound environmental policies are implemented or when trade liberalization is accompanied by government policies in related areas which adjust economic incentives to environmental objectives.

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16 OECD, Report by the Trade and Environment Policy Committees to the Meeting of the Council at the Ministerial Level (COM/TD/ENV(92)31/REV2).

17 In this context, Agenda 21 refers to the need to "encourage, in the context of achieving sustainable agricultural development and consistent with relevant internationally agreed principles on trade and environment, a more open and non-discriminatory trading system and the avoidance of unjustified trade barriers which together with other policies will facilitate the further integration of agricultural and environmental policies so as to make them mutually supportive" (paragraph 14.11).

18 It is expected that liberalization of world trade in agriculture in most cases will result in higher world market prices, decreased production in the OECD countries and export-led growth of agricultural production in developing countries. Environmentalists fear that trade liberalisation will result in increased competition; increased use of fertilizers and pesticides; the expansion of land used for agricultural production (leading in some cases to deforestation); and a shift in agricultural production towards export products. However, the gains from increased access to export markets and from higher prices for their production provide better options for sustainable land management among agricultural producers in developing countries.

19 The World Commission on Environment and Development, op. cit., page 83.

IV. TRENDS IN ENVIRONMENTAL POLICIES AND TRADE

27. This section lists some aspects of environmental policies which may have an important impact on trade between nations. It pays special attention to the issue of standards, in particular the potential impact of standards on market access and international competitiveness. In order to analyse the impacts of standards on trade a distinction has been made between product and process standards and regulations.

A. Environmental policy instruments

28. Environmental policies are based on one or a combination of the following measures: direct controls, including licensing; indirect controls,[20] including pollution charges, subsidies and tradeable permits; voluntary industry agreements or covenants; creation of markets through the extension and definition of property rights; liability arrangements; and the dissemination of information regarding environmental impacts.

29. Although in the past direct controls have predominated in the actual implementation of environmental policies, there has recently emerged a broad consensus that in most cases indirect controls are more efficient at achieving environmental goals than direct controls. The greater flexibility offered by the former means that a given reduction in waste or industrial pollution can be achieved at lower cost. Indirect measures also offer permanent incentives to reduce pollution and can provide a source of revenue, if pollution charges are implemented.

30. In addition to the distinction between direct and indirect controls, it is useful to classify environmental policy measures based on standards in terms of:

- Ambient standards which determine the permitted concentration of pollutants in a given medium; (air, water, soil);
- Emission standards which set maximum levels of pollution releases, by plant, industry or region;
- Technology standards which determine the technology to be used in the production process;
- Performance standards which specify pollution releases per unit of output from a given plant;
- Product standards which specify the physical or chemical properties of a product.

31. Ambient standards by themselves can rarely be implemented. They need to be translated into emission or performance standards. The emissions, technology and performance standards may, for analytical purposes, be classified together as process standards, also referred to as Processes and Production Methods (PPMs) in GATT terminology. The distinction between process and product standards is important, particularly because their trade effects and treatment in GATT are different.

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[20] Indirect controls which work through the market mechanism are also known as economic instruments. However, a clear distinction between "economic" and "regulatory" instruments, is not always possible. Economic instruments include charges, subsidies, deposit return systems, market creation and financial enforcement incentives (See OECD, Economic Instruments for Environmental Protection, Paris, 1989).

B. Developments in product standards and regulations

32. Product standards refer to technical specifications such as performance, quality, safety or dimensions. Normally the term technical regulation is used when compliance is mandatory while the term standard is used when compliance is voluntary.

33. Environmental product regulations are a fundamental part of domestic environmental policy. They are intended to control the environmental impact of products during use or after disposal. Product regulations may refer, among other things, to pesticide residues, toxicity, energy efficiency, emission of pollutants, recyclability, capacity for re-use, etc. Product regulations in some countries are increasingly focusing on environmentally-dangerous substances. As a natural extension, products containing these dangerous substances are also subject to varying degrees of regulation.[21]

34. As significant progress has been made in the control of emissions and waste generation at the process level, environmental policies in some industrialized countries, particularly Germany, the Netherlands and the Nordic countries, are increasingly putting emphasis on product policies. In other countries, policies aimed at controlling waste streams continue to focus on process regulations.[22]

35. Product policies and measures tend to address the environmental impact of a product at different stages of its life cycle. For example the "downstream" environmental impact of consumer goods after use by households is increasingly reflected in either product standards (i.e., recyclability) or in the product information provided to consumers. A trend observed in Europe is to hold producers and distributors responsible for taking back packaging materials after use (see below). Take-back obligations for products other than packaging materials (for example cars) are also under consideration in some countries.

36. The increasing interest in the environmental impact of products tends to address the physical and chemical characteristics of the product itself and in many cases the way the product has been made. Under current international trade rules, it is not permissible to apply trade measures to enforce process regulations. However, "upstream" environmental impacts that a product causes at its production and process stages may play a role in the overall consumer acceptance of the product in environmentally-conscious consumer markets. Such impacts are already being considered in the context of eco-labelling programmes.

1. Impact of product standards on trade and competitiveness

37. In the case of product standards and regulations (related to consumption externalities), national regulations implying higher standards may favour domestically-produced over imported products to the extent that foreign producers have to incur higher costs in order to comply with the same regulations.

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21 A number of countries have established lists of priority substances that will be targeted for reduction or elimination. This policy, sometimes listed under the heading "diffusion", is directed towards new substances that constitute a risk for the environment as well as a large number of existing substances that put a burden on the environment, such as pesticides and heavy metals. The policy described is normally implemented by controlling the products in which the substances are used.

22 A recent study observes that "whereas some of the "greener" European countries (especially Germany, the Netherlands and the Nordic countries) increasingly focus on the environmental attributes of products at the national level, U.S. policies continue to focus on regulating industrial waste streams. Except in cases where products pose a clear threat to human health (e.g., some pesticides, PCBs, leaded gasoline and paint), the federal government has been reluctant to regulate the environmental attributes of products directly. For example, the Resources Conservation and Recovery Act regulates "hazardous" industrial waste closely, but delegates the primary responsibility for product disposal and "non-hazardous" solid waste management to the states." see Congress of the United States, Office of Technology Assessment (1992) Green Products by Design: Choices for a Cleaner Environment).

38. Product standards and regulations may sometimes act as obstacles to trade. Domestic producers can more easily influence their development and implementation than can foreign producers; and standards which lack transparency or which are not based on reasonable scientific evidence may constitute obstacles to trade. Differences in product regulations may also affect trade because of their impact on "transaction costs": Where regulations differ across markets, producers may have to incur additional costs to obtain information and to adapt their products to the different requirements of each market. These costs may be high if a particular market represents only a small portion of a producer's total sales.

39. The developing countries are concerned that stricter product standards in the developed countries may act as obstacles to trade or even intentionally be used to provide protection to domestic industry. It is well known that in certain cases economic interest groups may sometimes try to capture the legitimate concerns of environmental groups for protectionist purposes.[23] In some cases, even internationally agreed-upon product standards, as well as national standards which are applied equally to domestically-produced and imported products, may result in high compliance costs for developing countries.

40. Progressive standard setting for products and production processes with a view to inducing technological innovation is an instrument which is explicitly used to improve trade performance. Stringent standards for product performance, product safety and environmental impact may contribute to creating and increasing competitiveness, as they pressure firms to improve quality, upgrade technology, and provide features in areas of important customer (and social) concern. Particularly beneficial in this context are regulations leading to standards that will spread internationally.[24]

41. The impact of environmental standards on the competitiveness of developing countries may be different from the experience of industrialized countries. First, as developing countries tend to play at best a modest role in developing or setting environmental standards, adjustment costs are likely to be higher. Second, developing countries are often disadvantaged because they tend to be late adopters.[25] Third, developing countries will find it more difficult to absorb (part of) the costs of compliance with higher standards, not only because of scarcity of funds in general, but also due to competing usages of funds for other, more urgent, local environmental problems. It should be noted, however, that since efficient production as well as concern for environmental factors will increasingly become factors of international competitiveness (and a requisite for maintaining and where possible increasing market shares), proactive strategies can bring both environmental and commercial benefits to developing countries.

42. The increasing demand for "environmentally friendlier" products may provide market opportunities, including for developing countries. Concentration on the environmental performance of products may lead to substitution of chemical by natural products as well as the development of other products and substances that are preferable from an environmental point of view. This may result in some trade advantages for developing countries. These factors are being analysed in a report being prepared for consideration by the Ad Hoc Working Group on Expansion of Trading Opportunities for Developing Countries.

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[23] See Craig VanGrasstek, "The Political Economy of Trade and Environment in the United States", in Patrick Low, ed. International trade and the environment. World Bank Discussion Papers: 159, Washington, 1992.

[24] Porter, M.F., 1990, The Competitive Advantage of Nations, Worcester.

[25] A number of competitive advantages of being innovator or early adopter are indicated in Porter, op. cit. (p. 47).

C. Developments in packaging policies

43. Major developments are taking place in the area of packaging: regulations concerning packaging materials; recycled content provisions; product charges; deposit-refund systems; and "take-back" obligations. Standards and regulations regarding the physical characteristics of products and packaging materials require, for instance, that packaging be suitable for recycling or re-use. Non-compliance with such regulations may lead to both the packaging material and the product contained in it being denied market entry.

44. Much attention has been given to the German Federal Ordinance Concerning Avoidance of Packaging Waste. The law, which became effective in June 1991, holds manufacturers and distributors of products responsible for the packaging they create by requiring them to take back and reuse or recycle used packaging.[26]

45. Although the stated goal of the law is prevention of packaging waste at the source, attention has been focused almost exclusively on recycling. The provisions of the law apply to any goods sold in Germany, whether domestically-produced or imported. Thus, companies that export goods to Germany are, in principle, responsible for collection and reuse or recycling of their packaging.[27]

46. Although the Packaging Ordinance does not explicitly establish binding requirements regarding the use of specific packaging materials, the provisions requiring that packaging must be suitable for re-use or recycling may in some cases represent a barrier, if not a de facto exclusion of certain materials.[28] This may be seen as desirable in the light of domestic environmental concerns, but may sometimes have unintended environmental and trade effects on other countries, in particular the developing countries (see below).

47. On the request of retailers, industry established a private company, the Duales System Deutschland (DSD), to collect sales packaging from participating companies. These companies pay a licensing fee, based on the size of the packaging, to use a "green-dot" label that identifies their packages as eligible for collection by the DSD, thus avoiding those provisions of the law which would make them responsible for collection and recycling of their own packaging. It follows that products not carrying the green-dot are less attractive for retailers.

48. The green-dot system thus assists the enterprise sector in complying with the provisions of the Packaging Ordinance and is of particular interest to foreign producers and importers. However, it applies only to sales packaging and not to transport packaging. In order to be allowed to carry the green dot, the firm must present a guarantee from a processing industry that the package in question will be reprocessed. For most packaging materials (for example glass), such a guarantee can be obtained easily or is no longer required. However, for certain specific packaging materials which cannot be recycled within Germany, approval to use the green dot may be more difficult to obtain.

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[26] The law defines three types of packaging: transport (packaging used to protect or secure products during transportation, e.g. containers and wooden pallets), secondary (packaging which is used for advertising and presentation purposes) and sales (packaging which helps the consumer to transport the good). Specific additional provisions apply to each type of packaging.

[27] In practice, an importer with headquarters in Germany, rather than the foreign producer, will be held responsible to compliance with the law.

[28] The law, in paragraph 1 of Article 1, prescribes that packaging shall be manufactured from materials which are environmentally compatible and do not hamper the reuse or recycling of the materials used. The packaging has to be recycled whenever technically possible and economically justifiable. Disposal via the publicly-financed waste disposal system is not allowed: if reuse or recycling is not possible, the manufacturer or distributor has to pay for the actual costs of disposal.

49. Effective on 1 January 1993, France has adopted new legislation on packaging, which in some aspects is similar to the German Packaging Ordinance.[29] The legislation holds producers, importers or distributors responsible for taking back and eliminating household packaging waste (e.g., through reuse or recycling, with incineration also allowed). They can either take back the packaging themselves or delegate this responsibility to third parties. Municipalities remain responsible for the collection and sorting of household packaging waste.

50. The companies set up by industry include "Eco-emballages S.A.",[30] which provides financial support (using funds collected from producers or importers) to local authorities to improve their collection and sorting systems. These companies establish agreements with authorities guaranteeing that household waste will be taken in and treated appropriately. Explicit targets have been set for recycling glass, aluminium, plastic, paper and steel. For instance, the plastics industry has been contracted to recycle 40,000 tons of used plastics per year.

1. Impact of packaging policies on trade and competitiveness

51. In theory, packaging policies aim to reduce waste by reducing packaging materials at the source, by recycling, and by reuse. In practice, however, packaging policies have focused primarily on recycling.[31]

52. Even though packaging regulations do not explicitly discriminate against foreign suppliers, in practice they sometimes act as an obstacle to trade when certain specific packaging materials are used.[32] Certain kinds of packaging material from developing countries, such as jute or cloth, may be affected by newly-enacted packaging laws, not so much because they are environmentally less friendly but because the importing countries may not have the facilities to recycle them.

53. The requirements that packaging be taken back for reuse or recycling may raise administrative and procedural problems for foreign manufacturers[33] and increase their costs. For instance, in the case of the German Packaging Ordinance, the cost of reuse or recycling of imported packaging has to be paid by the foreign producer or the German importer. As the cost of reuse or recycling will depend on the size, quality and characteristics of the packaging, such cost, including fees for the use of the "green dot" in the case of sales

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[29] Decree No. 92-377 of 1 April 1992, published in the Journal officiel de la Republique Francaise of 3 April 1992.

[30] French companies such as "Eco-emballages S.A" and "DSD" have agreed to use the same symbol ("Green Dot").

[31] Apart from their impact on industrial competitiveness, recycling policies may have a more direct impact on international trade. Differences in recycling policies across countries may, in certain cases, result in "artificial" trade flows. Incentives for recycling may result in a supply of recycled products which exceeds demand. It should be noted that industries often prefer virgin to recycled materials, among other reasons because of their greater consistency of quality or because recycled products sometimes do not provide the required product information. Therefore, recycled materials will be used only when they are (significantly) cheaper or when consumers are willing to pay a higher price for products containing recycled materials. On the other hand recycled content provisions in one country, used to create a market for recycled or reused products, may oblige exporters in another country to import recycled materials.

[32] For example, wooden pallets are traditionally used as transport packaging for fruits and vegetables. This low-quality wood is normally not suitable for reuse or reprocessing. Some developing countries are concerned that in the case of exports to countries where incineration is no longer allowed, the use of pallets as transport package would de facto be excluded.

[33] In practice such problems can be mitigated with the help of service companies. For example, in the case of the German Packaging Ordinance the foreign producer may commission a service company in Germany (or another country) to collect and reuse or recycle the packaging materials. The effect on competitiveness will then depend on the cost of the services of such companies.

packaging, may in practice be higher for packaging used for products from developing countries than similar costs incurred in relation to packaging for domestically produced goods. In addition, a proportionally higher burden is put on low-value packaging materials, which is often used for developing-country products.

D. Developments in eco-labelling

54. Recent developments in many countries indicate that eco-labelling (the voluntary granting of labels by a government or privately-sponsored agency in order to inform consumers that a labelled product is determined to be environmentally more friendly relative to other products in the same category) is being increasingly used as a market-oriented instrument for environmental policy. Governments and environmental groups tend to support the development of eco-labelling programmes since they help in meeting environmental objectives by assisting households in making environmentally-sound purchasing decisions and encouraging manufacturers to produce environmentally friendly products.[34] Eco-labelling is sometimes referred to as a "soft" instrument, since the label is a positive identification adopted on a voluntary basis and establishes no generally binding requirements or bans.

55. The award criteria for such labels in principle call for a "cradle-to-grave" approach (an overall assessment of the ecological impact of a good during its life cycle, including production, distribution, use and consumption, as well as disposal).[35] An important question is how the cradle to grave approach is applied when international trade is involved, in particular with regard to the "upstream" environmental effects that a product generates at the stages of production and processing in another country.[36] In this connection, certain labelling authorities (e.g., in Canada) are reviewing the implications of requiring processes and production methods to meet only the environmental standards of the producing countries, given the differences across countries in environmental, legal and regulatory regimes. This approach would appear to be fully compatible with the principle (mentioned above in section III) that process and production standards may differ across countries.

56. Eco-labelling programmes can be more successful if designed in a cooperative manner, for example the criteria and thresholds concerning the environmental impacts of production processes which take place in other countries could be determined in consultation with the countries concerned. Eco-labels in product categories which are of export interest to developing countries are more likely to promote the production of environmentally-friendly products in developing countries if developed through an international process involving countries at different stages of development.[37] Such a process would encourage developing countries to take advantage of the promotional aspects of eco-labelling while at the same time ensuring the credibility and acceptance of eco-labels in consumer markets. An international process could also ensure that due consideration be given to the fact that environmental policies are more efficient if they reflect the specific environmental and economic conditions and social preferences in each country concerned.

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[34] Chapter 4 of Agenda 21, programme area B, Developing national policies and strategies to encourage changes in unsustainable consumption patterns also makes reference to the development of eco-labelling programmes. See paragraphs 4.20 through 4.22.

[35] Eco-labels differ from "single-issue labels" which address only one environmental quality of a product, for instance biodegradability. They also differ from labels containing warnings concerning the negative environmental impacts of a product (for example indications that products contain toxic substances).

[36] So far the "upstream" environmental effects have been given little attention in most eco-labelling programmes as in practice they have not been based on a true cradle-to-grave approach.

[37] Jha, V. and S. Zarrilli, *Eco-labelling initiatives as potential barriers to trade. A viewpoint from developing countries*. Paper prepared for the Informal Experts Workshop on Life Cycle Management and Trade. OECD, Paris, July 20-21, 1993.

57. Mutual recognition of eco-labels or the acceptance of other country labels as equivalent to those used in the importing countries can also help to minimize the risk of obstacles to trade while at the same time contributing to the achievement of environmental objectives. Precedents for mutual recognition are the procedures laid down in the convention on mutual recognition of pharmaceutical products, proposed by EFTA. Moreover, the EC is proposing to recognize the Nordic Label, and Switzerland has decided to use the EC label even though it is not a member of the community.

1. Impact of eco-labelling on trade and competitiveness

58. In markets with consumer preferences for "green" products, the use of an eco-label serves as a promotional instrument. At the same time it may adversely affect the competitiveness of unlabelled products in the same category.[38] Thus, despite being voluntary (there are no mandatory regulations involving banning of non-complying products), eco-labelling programmes may also have an impact on international trade.

59. Eco-labelling programmes are open to both domestic and foreign suppliers. The criteria for granting the labels are the same for domestically-produced and imported products. However, in certain cases eco-labelling programmes may favour domestic producers over foreign suppliers and may act as a de facto barrier to trade for imported products not receiving the label.[39] For example, domestic producers can more easily influence the development and implementation of national eco-labelling programmes than can foreign producers.[40] Also, certain administrative procedures, such as plant inspection, may be expensive and in practice imply differences in treatment. Finally, the cradle-to-grave approach, which considers, among other things, processes and production methods as well as raw-material use, may in practice discriminate against developing countries.[41]

60. Threshold levels set for the criteria which should be complied with to qualify for an eco-label vary considerably among systems.[42] To encourage innovation and technological

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38 In certain cases imports of products not using the label have declined significantly. This has been reported to be the case, for example, of imports of fine paper (from Brazil) into Norway.

39 A greening of consumer preferences as a result of whatever communication medium is often difficult to be perceived by foreign suppliers. See Verbruggen, H., 1993, *"The Trade Effects of Economic Instruments"*, paper prepared for the OECD Environment Directorate Informal Experts Workshop on "Environmental Policies and Industry Competitiveness", 28 to 29 June 1993, page 6.

40 Decisions regarding the selection of product categories as well as the establishment of criteria and threshold levels for the granting of eco-labels normally are made by a jury (or by the Government on the basis of the recommendations of a jury). The compostion of such a jury differs from country to country, but all include representatives of industry as well as environmental and consumer groups. In practice, industry is often better prepared to provide experts for the hearings of the jury. Proposals for new products are generally made by manufacturers (for example, in Canada 70 per cent of the proposals have come from industry).

41 As mentioned above, in practice eco-labelling programmes tend to concentrate on a few criteria, and not on the entire production cycle. This implies that in practice developing countries may find it less difficult to comply with the criteria than the cradle-to-grave approach may suggest. However, a preliminary examination of eco-labelling schemes indicates that eco-labelling programmes tend to be based on processes and production methods (PPMs) and the use of raw materials which are predominant in the importing country. Thus they may in practice discriminate against imported products even though such products may have used environmentally-sound PPMs and environmentally-friendly raw materials.

42 In the case of the European Community eco-label, the European flower, the EC strategy is to make the eco-label highly visible and widely effective from the outset so as to improve its acceptability in the market. To this end, less stringent criteria will apply initially, the plan being to tighten them up after two or three years. For the time being, the EC label will merely complement existing or future national labelling schemes. Some time will pass before a uniform eco-label is introduced in the EC. Imme Scholz and Jurgen Wiemann, *Ecological Requirements to be Satisfied by Consumer Goods - A New Challenge for Developing Countries' Exports to Germany*., German Development Institute (GDI), Berlin, June 1993.

improvements in environmental terms, in many cases threshold levels are deliberately set at a high level so that initially only a small portion of the products existing in the market are able to qualify for the label. In some cases the selection of criteria and threshold levels may be so narrow that in practice a particular technology or a particular production process may be required.[43] For developing countries, it may be difficult to comply with the high threshold levels for some of the criteria. In addition, to the extent that developing countries have to incur higher costs to upgrade their products to the high threshold levels, their competitiveness may be impaired unless they can obtain a significant price advantage or a higher market share for products qualifying for the label.

61. To date the impacts of eco-labelling on developing-country exports do not yet appear to be very significant as only very few products of export interest to developing countries are currently covered (for example paper and paper products). However, the possibility of introducing eco-labelling schemes covering products of primary export interest to developing countries, such as textiles, clothing and footwear, is now being studied by the European Community, and several proposals have been made regarding eco-labelling for tropical timber.

E. Process standards and regulations

62. Process standards can vary between direct and indirect control instruments. Emission standards can be set individually for firms, in which case they are direct controls, or achieved through an environmental tax or a tradeable permit system, in which case they are indirect controls. Technology standards are essentially direct controls, as they dictate the production process at the plant level. Performance standards are at least partly indirect, as they permit a free choice of technology at the plant or enterprise level, and offer continued incentives for innovation.

63. Process standards and regulations may adversely affect the competitiveness of domestic industry because of their impact on production costs. At the same time, they may encourage innovation and improve competitiveness. Process standards may also have an impact on industrial location decisions, i.e., industries may move from countries which have higher standards to those which have lower standards. If production processes have transborder or global environmental impacts, then international or regional agreements may include process standards. These issues are examined in more detail below.

1. Impact of process standards on competitiveness and innovation

64. Although process regulations that increase production costs may prove competitively disadvantageous to domestic industry vis-à-vis industries in countries where standards are lower, empirical studies referring to industrialized countries indicate that the cost effects of environmental process standards are on average relatively small. Consequently, more stringent environmental process standards in one country do not appear to have resulted in a significant loss of overall competitiveness or relocation of industries to other countries with lower standards.[44] However, for particular sectors or firms, differences in process standards and regulations may have more serious impacts.

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[43] OECD, Environmental Labelling in OECD countries, , Paris, 1991.

[44] While raising environmental standards may affect specific sectors negatively, other sectors may gain. This is because higher environmental standards contribute to the development of new markets. The International Finance Corporation has estimated that the world market for environmental goods and services may double from the current US $ 300 billion to US $ 600 billion by the year 2000. The OECD has estimated that the size of this market is about US$ 200 billion at present and will grow to US$ 300 billion by the year 2000. (Sorsa, P., 1993, *"Competitiveness and Environmental Standards: Some Exploratory Results"*, paper presented to the

65. Thus, while innovation in expanding industrial sectors may prevent differences in process standards from having any significant effects on international competitiveness, the same may not hold in sectors which are intensive in natural resources or which are highly dependent on price as a factor of competitiveness. Here even relatively small differences in standards will have a significant effect.

66. One reason why most empirical studies indicate a relatively small impact of environmental standards on production costs may be that they consider only part of the environmental protection costs.[45] The cost effects may increase when environmental costs are more fully internalized.[46] However, even in this case firms may be able to pass (part of) the cost increase to those consumers who are willing to pay a higher price for environmentally preferable products.

67. Another reason why the cost impact has so far been low is that properly-designed environmental process standards may induce innovation resulting in cost savings which may offset at least part of the cost of compliance. For instance, such standards can pressure firms into using less material and energy inputs, resulting in reduced costs of inputs or to adopt other cost-saving practices.

68. It should be noted that environmental policy formulation is also a political process which is influenced principally by industry and government. Government objectives include a high level of environmental quality, but at the same time high employment and international competitiveness. Industry favours environmental policies which, among other things, minimize costs and provide maximum flexibility in complying with environmental standards. Both government and industry are thus interested in shaping environmental policies in a way that removes strong negative impacts on competitiveness. Gradual introduction, exceptions, rebates and compensating subsidy schemes[47] are used to mitigate the effects on international competitiveness and trade.[48]

2. Impact on industrial location decisions

69. An issue which has often been raised in the literature is whether "dirty" industries migrate in response to differences in environmentally related process standards. Relocation of industries due to differences in environmental policies across countries has two aspects: the "push effect" leading to exodus of polluting industries as a result of the increased cost of more stringent environmental regulations and the "pull effect" of lower costs due to laxer environmental policies (the "pollution haven" hypothesis).

70. Empirical studies show little evidence that "dirty" industries have migrated because of differences in environmental process regulations and standards across countries. Three

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Conference on International Trade and the Environment, 22 and 23 March 1993, by the Austrian Federal Economic Chamber).

45 One shortcoming of most studies is that they focus on industrial pollution control costs, ignoring the impact of environmentally motivated regulations on sustainable development, in particular the sustainable use of natural resources. Also, methodological and data constraints have prevented most studies from picking up micro-impacts. For a summary of limitations of different studies see: Congress of the United States, Office of Technology Assessment (OTA), Trade and Environment, Conflicts and Opportunities, Appendix E. OTA-BP-ITE-94 (Washington, DC: U.S. Government Printing Office, May 1992).

46 Carbon taxes may have a significant impact on international competitiveness.

47 By absorbing part of the environmental costs through subsidies governments have mitigated the possible short-term negative impact of higher standards on the competitiveness of firms. In some cases by bearing part of the capital costs and by financing research and innovation in environmentally sound technologies governments may contribute to the dynamic adjustment of firms to higher standards (See Sorsa, P., 1993, op. cit.).

48 H. Verbruggen, op. cit.

reasons are cited (i) differences in environmental process standards have small or negligible effects on international competitiveness; (ii) even if existing environmental policies and standards are lax, the expectation often exists that eventually environmental standards will become more stringent. Investment in countries which currently have relatively lax standards may require large adjustments in the future; and (iii) transnational corporations often apply the higher standards of their home country.

71. Despite the lack of empirical evidence, there are grounds to suppose that dirty processes in some sectors have been moved to developing countries in response to differences in environmental standards. A more detailed and systematic investigation of this issue would be desirable.

72. Where dirty-industry migration does take place, the advantages in terms of employment and output have to be weighed against the disadvantages. The most important disadvantages include the following:[49] (i) industry migration will impose social costs in terms of health and safety risks for the workers as well as for those who live around the factory; (ii) products made by dirty industries may find it difficult to access the markets of countries with high environmental standards, particularly those in OECD countries; and (iii) dirty industries which migrate are typically stagnant or declining.

F. Transborder, regional and global environmental problems

73. Transborder, regional and global environmental problems may be addressed by means of both product and process standards and regulations. One important example of such an application is the Montreal Protocol.[50]

74. Given the developing countries' technological disadvantage in producing CFC substitutes, an agreement was reached among the parties to support the introduction of CFC substitutes in developing countries through a special facility; some transfers have been made, but the amounts involved are small. Interestingly, the shift to substitutes has been greater in the more open economies. Mexico and China have decided to phase out the use of CFCs at the same rate as developed countries, because of the technological advantages and export benefits associated with an accelerated phase-out.

75. A second recent example is the Climate Change Convention, in which the focus is on emission standards for greenhouse gases at the national level. In order to meet these standards, governments are looking at indirect instruments such as carbon taxes and tradeable permits at the national or regional level, and at some form of offset at the international level, whereby a country that makes a reduction in greenhouse gases in a third country can be given credit for that reduction. Recent attention has focused on the trade implications of emission standards with respect to this convention. If one region or country imposes carbon taxes, while others do not, there could be a significant loss of competitiveness.

76. Developing countries provide a large number of "environmental services" to the international community. In many cases such services make important contributions to the protection of the global environment, but are provided without remuneration. For example,

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[49] Zarsky, L., Trade-Environment Linkages and Sustainable Development. Report to the Department of Arts, Sports, Environment, Tourism and Territories. Nautilus Pacific Research, North Fitzroy, Australia, October, 1991.

[50] The use of PPM-related trade measures is being considered under the Montreal Protocol. By January 1994 the parties are expected to determine the feasibility of including products which are made from, but do not contain, the controlled substances in the corresponding Annex. Imports of such products originating in non-parties would then be banned.

developing-country forests provide both carbon sink and biodiversity services. The undervaluation of environmental resources providing such services is currently resulting in their overexploitation. Research therefore needs to be conducted on how to place a value on such resources and on types of mechanisms that would allow developing countries to receive payment for their environmental services. This would contribute to the preservation of environmental resources.

G. Need for further analysis

77. The full impact of environmental policies on trade is difficult to determine at the present. There are a number of reasons, some of them outlined above, which could explain why environmental policies have an impact on trade, particularly on trade with developing countries. However, there is little empirical basis for systematically analysing the linkages between environmental policies and trade. In recognition of this gap, UNCTAD, jointly with UNDP, has initiated a project which, among other things, will collect information on 15 or more developing countries regarding the possible trade impact of environmental regulations in the major OECD markets.[51]

78. The UNCTAD secretariat has also started a project on the potential impact of eco-labelling schemes on exports of developing countries.[52] The main purpose of the project is to help ensure that such schemes do not become an obstacle to exports from developing countries. The project will also analyse how eco-labelling may be used to boost the exports of environmentally-friendly products from developing countries. More in-depth analysis will be undertaken on the basis of case studies, covering a small number of products and exporting countries. One of the objectives of the project is to assess how the special conditions and development needs of developing countries could be considered, for example in the selection of products and in the determination of the criteria a product must meet to qualify for the label. In this context, it may be useful to explore the possibility of developing internationally-recognized criteria for eco-labelling of products which are of special export interest to developing countries. The project could provide inputs to such efforts.

79. Developing-country exporters sometimes lack timely and precise information about emerging environmental standards and regulations in the OECD countries.[53] Uncertainty about environmental requirements may create problems, which sometimes are as or more important than the costs of compliance. This points to the need for increased transparency and early notification. In addition, increased awareness of new environmental standards and regulations and consumer preferences for "green" products is of crucial importance. This includes the ability to recognize emerging trends in consumer preferences and to adjust to them through changes in product design and marketing policies. In this context, the adjustment of UNCTAD's database on trade-control measures to include environmental regulations and measures as well as UNCTAD's technical assistance projects in the field of trade and environment[54] are particularly relevant.

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51 The principal objective of the project is to contribute to an empirical basis for the analysis of the complex linkages between trade, environment and development, covering a variety of countries. For a description see document TD/B/39(2)/CRP.2 or project document INT/92/207/A/16/40.

52 The project has already pooled information on existing eco-labelling systems in three developed and three developing countries (See Jha, V., R. Vossenaar and S. Zarrilli, *"Eco-labelling and International Trade, Preliminary Information from Seven Systems"*, Geneva, May 1993. Draft discussion paper prepared for the ISO/IEC SAGE subgroup on eco-labelling, Toronto, May 27-28, 1993).

53 In many cases developing country exporters rely exclusively on importers in the OECD countries for information on environmental regulations with which they have to comply.

54 The objectives of these projects are to increase awareness and understanding of the linkages between trade and environment and to enhance and strengthen the participation of countries in the regions in international deliberations on trade and environment. The projects also try to make a contribution to efforts aimed at

80. One of the conclusions emerging from the above-mentioned projects is that environmental regulations as well as certain criteria being developed in the framework of eco-labelling schemes, which are being designed in the light of environmental concerns in the OECD countries, may have unintended effects on sustainable-development policies in developing countries. For example, the emphasis on recycling in the OECD countries may force developing countries to use materials which can be recycled in the OECD countries but which are environmentally less friendly than materials which are traditionally used in developing countries.[55] Certain environmentally-related measures in the OECD area may not adequately consider that environmental protection in developing countries can be more effectively achieved through policies which reflect local conditions and priorities.[56]

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maintaining and, if possible, increasing market shares in light of the environmental concerns in the major markets. Finally, the projects seek to contribute to a dialogue between trade, environmental and developmental communities at the national and regional levels, through the extensive dissemination of results of policy-oriented research, workshops and seminars.

55 A case study on Colombia, undertaken under the UNCTAD/UNDP project on "Reconciliation of Environmental and Trade Policies", indicates that in the light of environmental regulations in the OECD markets certain export products are now using (imported) plastic rather than jute as packaging material.

56 For example, Brazilian pulp producers claim that certain measures proposed in the European Community in favour of recycling, in response to local European environmental concerns and policies, do not adequately consider the fact that local conditions, environmental priorities and ways to improve environmental protection in Brazil may be different from those in the European Community. In their view, the planting of new forests in Brazil for the production of pulp and paper, a large part of which is exported, is a viable way of promoting sustainable development through trade, which, however, may be adversely affected by the measures proposed in the European Community. See Environmental Committee of ABECEL, *Danger of trade barriers against pulp exports to the EEC*, April, 1993. The argument refers to the proposed eco-labelling of pulp, the proposed EEC directive on packaging and Belgium's eco-tax, all of which would favour recycled fibres over virgin fibres. See also International Environmental Reporter, *The eco-label program raises concern for Brazilian business*, January 27, 1993, and Jha, V. and S. Zarrilli, op. cit.

V. THE USE OF TRADE MEASURES FOR ENVIRONMENTAL PURPOSES

81. In practice many environmental policies have been successfully implemented without any conflict with trade policies. However, there are a number of reasons why environmental policies may lead to trade friction. This section analyses the legitimacy of using trade measures for environmental purposes. It points to the need for strengthened international cooperation, in particular to prevent unilateral measures.

A. Pressures to use trade measures

82. There is wide agreement that governments should, to the greatest possible extent, address environmental concerns at their root causes. Normally environmental problems can most effectively be dealt with by appropriate environmental and macroeconomic policies. As mentioned in section III, trade measures by and large constitute only second-best solutions to environmental problems. In addition, measures that adversely affect the development process may reduce the options for sustainable development, particularly in developing countries. The solution for many environmental problems lies not only in environmental action per se, but also in development.

83. Nevertheless, trade measures may in some cases constitute the most effective feasible solution (e.g., in the case of trade in hazardous substances). In other instances, the overall best solution may be unavailable. Pressures have been building to use trade measures on environmental grounds and to adjust the existing rules of the international trading system to allow a wider use of trade measures. There are a number of potential areas of conflict which may lead to trade friction and put strains on the international trading system.

84. The analysis of the preceeding chapter has indicated three areas of concern. First, environmental product standards and regulations may sometimes act as de facto Non-Tariff Barriers (NTBs). Second, friction may result on account of the effects of differences in process standards and regulations on international competitiveness. Entrepreneurs may perceive themselves at an unfair cost disadvantage compared to industries in countries with laxer standards, while environmentalists fear that governments sometimes feel obliged to refrain from raising process standards because of negative impacts on international competitiveness. Both entrepreneurs and environmentalists may pressure governments into imposing countervailing duties and/or other trade restrictions on countries with lower standards. Third, the growing concern about transborder (regional or global) environmental problems and the "global commons" may also result in increased pressure to resort to trade measures to control environmental effects and act as sanctions against "free riders".

85. An additional source of pressure to use trade measures arises from concerns of citizens and consumers in one country about local environmental conditions in another country, for instance pollution of the national environment: They sometimes exercise pressure to impose trade measures with a view to influencing the environmental policies of the other country.

86. In assessing the circumstances under which trade measures may be legitimate and effective in addressing environmental problems, it is useful to note that for a country to protect its own environment against damage from the consumption (and disposal) of domestically-produced or imported products, it may be necessary to apply complementary trade measures. For instance, if a country decides that its own cars must have catalytic converters, effective enforcement requires that imported cars should also have such converters, and if not, should be denied access to its market. In this regard, it is important that denying entry to non-complying imports is a legal trade measure under existing GATT

rules so long as the principles of non-discrimination and national treatment are observed.[57] However, under the GATT Agreement on Technical Barriers to Trade, other Contracting Partners can challenge standards and regulations if they constitute barriers to trade, unless they are based on scientific evidence.

B. The competitiveness issue

87. Existing trade rules also permit each country to control the environmental effects of domestic production processes, for example by emission standards for domestic industries. However, the view is sometimes expressed that international competition makes internalization of resource and environmental costs difficult, as industries which internalize these costs to a greater degree than similar industries elsewhere suffer a competitive disadvantage.[58] Thus, a country that favours strong environmental protection appears to suffer a trade loss, whereas a country with lax environmental standards appears to enjoy a trade gain. Some see any cost differences arising from different environmental policies as trade-distortive subsidies and a source of "unfair competition". According to these views, international trade rules should be changed to permit the use of subsidies, countervailing duties or other measures to "level the competitive playing field."[59]

88. From the analysis presented in Section III, however, it follows that differences in standards across countries by themselves do not indicate the failure of countries with lower standards to internalize environmental costs or the existence of "unfair" competition. Indeed, the 1972 OECD "Guiding Principles Concerning the International Economic Aspects of Environmental Policies" includes a paragraph stating that "Differences in environmental policies should not lead to compensating import levies or export rebates (border adjustments) or measures having an equivalent effect, designed to affect the consequences of these differences in prices". The same paragraph mentions that effective implementation of the guiding principles (which include the Polluter Pays Principle) makes it "undesirable and unnecessary to resort to such measures".[60] As mentioned in footnote 13, the Polluter Pays Principle recognizes that differences in standards are justified by a large variety of factors.

89. Furthermore, whether or not the Polluter Pays Principle is applied, it is undesirable to use countervailing duties or other trade measures to offset cost differences arising from differences in environmental policies and standards: In dealing with intrinsically domestic environmental problems, efficiency requires that each country adopt environmental policies and standards which reflect its own environmental and developmental conditions. In addi-

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57 In certain cases a GATT Contracting Party can take measures which otherwise would be inconsistent with its GATT obligations under Articles XX(b) and XX(g), subject to safeguards.

58 The WWF has proposed that GATT rules be reinterpreted or amended to allow Contracting Parties to "discriminate between like products that vary in the degree to which the environmental and resource costs of their production are incorporated in their price". It would then be possible to protect domestic industries that internalize more of their costs than foreign competitors through import tariffs or subsidies. WWF (1991), The General Agreement on Tariffs and Trade, Environmental Protection and Sustainable Development. page 2.

59 A number of legislative proposals have been introduced in the United States that would treat failure by other countries to enforce environmental standards comparable to U.S. standards as countervailable subsidies. These proposals have not become law. However, they reflect a school of thought which supports the use of countervailing duties to achieve environmental purposes. The proposed "International Pollution Deterrence Act" (introduced in 1991 by Senator Boren) would allow inadequate pollution controls, including inadequate enforcement of such controls to be considered as subsidies. Countervailing duties equal to the cost to the foreign firm of complying with U.S. environmental standards could then be imposed. Other legislative proposals include the Global Clean Water Incentives Act, which would impose fees on imported products subject to or manufactured from processes that do not comply with U.S. Clean Water Act standards. See Congress of the United States (1992), Trade and Environment, Conflicts and Opportunities. page 92.

60 OECD, The Polluter Pays Principle, definition, analysis, implementation. Annex I, Paris, 1975.

tion, although it will generally be more efficient to prevent environmental damage than to engage in remedial cleanup and restoration, so long as environmental damage is reversible, faster economic growth with the gradual raising of environmental standards may in certain cases be more efficient for a particular country.[61] It may also be more efficient for a country to direct prevention or clean-up funds to one industry rather than to another, reflecting its evaluation of environmental impacts in these industries.[62]

90. Environmental countervailing duties pose several other problems. First, there is the question of which country should select the standard - an environmental countervailing duty could be used as a tool for a large country to impose its environmental policies on a smaller partner. Second, a country may have very stringent environmental standards for certain pollutants and less stringent standards for others. It would then be necessary to determine who should decide which combination would be the most appropriate. Third, since only goods exported to the country imposing an environmental countervailing duty are affected, the measure could be ineffective in encouraging changes in environmental policies and practices: Goods destined for the domestic market or other countries would not be affected. Furthermore, the exporting company could choose for the duty to be paid rather than modify its environmental practices. Finally, environmental countervailing duties may contribute to trade friction and adversely affect the multilateral trading system.[63]

91. A distinction is sometimes made between those differences in environmental standards that reflect differences between assimilative capacities and social preferences across countries and those that constitute part of "strategic policies" aimed at obtaining trade benefits from deliberately setting standards at an artificially low level (or from not enforcing standards). According to this view, a case could be made, at least in principle, for the use of countervailing duties against "strategic behaviour". The theoretical literature reveals, however, that such strategical behaviour is unlikely to be practiced on a rational basis.[64] Action against this type of strategic behaviour would also be difficult to carry out, as in practice it is virtually impossible to make a distinction between "legitimate" and "artificial" differences of standards between countries.

92. One of the propositions made in Agenda 21 is to "Seek to avoid the use of trade restrictions or distortions as a means to offset differences in costs arising from differences in environmental standards and regulations, since their application could lead to trade dis-

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61 Some empirical support for this view stems from the finding that the amount of pollution generated by an economy when per-capita income levels grow tends to follow a bell-shaped curve. As per-capita income grows, demand for higher environmental quality as well as the financial and technological means needed to achieve a cleaner environment will also increase. Grossman and Krueger have estimated the effect of per-capita income on three types of air pollution. They found that two pollutants, sulphur dioxide and dark matter, follow an inverted U path. They specify that this might be the result of income elastic demand for a cleaner environment resulting in stronger pollution regulations and enforcement. Gene Grossman and Alan Krueger, "*Environmental Impacts of a North American Free Trade Agreement* (Cambridge, MA: NBER Working Paper 3914, November 1991). The bell-shaped curve can also be explained by changes in the composition of production. Pollution tends to increase at low levels of income as industry replaces agriculture but tends to decrease at higher level of income when services replace industry. However, while these findings generally hold for pollution intensity per unit of production, increases in the scale of production may result in continued increases in over-all levels of pollution. These findings may not hold for all countries or all pollutants.

62 Jagdish N. Bhagwati, *Trade and the Environment: a False Conflict?* (revised text of the Bradley Lecture delivered in Washington DC on February 9, 1993).

63 The GATT report on Trade and the Environment has very strongly opposed the use of trade measures, such as countervailing duties, to offset the competitive effects of differences in standards across countries: "To allow each contracting party unilaterally to impose special duties against whatever it objects to among the domestic policies of other contracting parties would risk an eventual descent into chaotic trade conditions similar to those that plagued the 1930s". GATT (1992), Trade and the Environment, page 20.

64 Scott Barrett (1993), *Strategic Environmental Policy and International Competitiveness* (Paper prepared for workshop on Environmental Policies and Industrial Competitiveness. OECD, Paris, January 28-29, 1993).

tortions and increase protectionist tendencies".[65] The above analysis indicates that environmental countervailing duties are indeed very difficult to justify from either a trade or an environmental point of view. If remedial actions were required to address short-term difficulties arising from differences in standards, the existing safeguard provisions of GATT could be invoked.

C. Processes and Production Methods (PPMs)

93. Under current international trade rules, countries are not allowed to establish standards for how products should be processed or manufactured and then prohibit imports of "like products" not meeting these standards. Implementing trade measures aimed at imposing a standard on processes and production methods (PPMs) used in another country amounts to an extraterritorial application of the importing country's law.[66] It is true that the draft terms and definitions of the revised Agreement on Technical Barriers to Trade being negotiated in the Uruguay Round Negotiations define product standards as those concerning "product characteristics and their related process and production methods"; however, this wording limits PPMs to those processes and methods which have an effect on the characteristics of the product itself.[67] The present section instead refers to PPMs which are not related to the product, such as emission standards for steel plants.

94. Apart from the competitiveness issue, there are other reasons why a country may object to PPMs used in other countries. A distinction could be made between (i) process standards which are objected to because they do not internalize environmental costs and are alleged to lead to unsustainable development; (ii) processes which are objected to because they create transborder spill-overs (such as acid rain or global warming); and (iii) processes which are objected to because of "values" (basically production "methods" such as fishing with purse-seine nets or using leghold traps). Trade measures might, under certain conditions, be permissible under international law in the second case so long as they are taken in the framework of international environmental agreements (see below), but the relation of such measures with GATT rules needs to be clarified.[68] In the other cases trade restrictions, which tend to be both unilateral and extraterritorial,[69] are difficult to justify.

95. Trade measures intended to impose certain PPMs on other countries tend to be inefficient as they deny the benefits of trade on the basis of comparative advantage. They also tend to be inefficient from an environmental point of view as efficiency requires that each country adopt environmental policies and measures which reflect its own economic and environmental conditions as well as its social preferences.

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[65] Paragraph 2.22(e).

[66] See David Robertson, Trade and the Environment, Harmonization and Technical Standards, in Patrick Low, ed. International trade and the environment.

[67] Product testing is sometimes based on verification of processes rather than of the product itself. In certain cases product characteristics depend on special processes used and cannot be fully verified through product inspection. In this context, the ISO 9000 quality systems uses the term "special processes" to describe processes, the results of which cannot be fully verified by subsequent testing of the product and where, for example, process deficiencies may become apparent only after the product is in use (ISO 9001, Clause 4.9.2). An example can be found in the case of plastic moulding. The ability of a moulded product to withstand stress may depend on the uniformity of dispersion of additives, moulding temperature, etc. See International Trade Centre UNCTAD/GATT, ISO 9000 Quality management systems: guidelines for enterprises in developing countries, Geneva: ITC, 1993, xvi, 231p.

[68] The GATT Working Group on Environmental Measures and International Trade has, among other things, been analysing trade provisions in multilateral agreements vis-à-vis GATT principles and provisions.

[69] In this context, it should be noted that Principle 12 of the the Rio Declaration on Environment and Development includes the statement, based on on paragraph 152 of the Cartagena Commitment, that "unilateral actions to deal with environmental challenges outside the territory of the importing country should be avoided".

96. International cooperation should look for alternative ways to address PPM-related issues, for example through technology transfer and financial and technical assistance.[70] Eco-labelling, pursued at a multilateral level, may be a viable alternative to trade restrictions and can constitute an instrument which can help developing countries to capture the rents associated with environmental concerns in the industrialized countries.[71]

D. Transborder, regional and global environmental problems

97. As recognized in UNCTAD VIII and UNCED, measures addressing transborder, regional and global environmental problems should, as far as possible, be based on international consensus. International Environmental Agreements (IEAs) are an appropriate instrument for addressing transborder and global environmental problems through international cooperation. The above analysis indicates that trade provisions should be included only when necessary and when directly related to the environmental problem addressed by the agreement, and that conflicts with GATT rules should as far as possible be avoided.

98. A controversial question is the use of trade measures in IEAs to address the issue of "free-riders". In certain cases, effectively addressing transborder or global environmental problems requires the participation of a large number of countries. For an environmental agreement to be truly international all interested countries must be afforded full opportunity to participate in its negotiation and to become a party. This would help avoid the risk of a few countries deciding on the establishment of international environmental objectives and making access to their markets dependent on compliance with the provisions of agreements among them. In the case of international agreements which are negotiated by a sufficiently large number of countries, for example under the auspices of the United Nations, multilaterally agreed-upon trade measures against non-participants may, in principle, be permissible if they are necessary to achieve the internationally agreed-upon environmental objectives. However, positive measures are to be preferred over sanctions, as cooperation is more likely to generate economic and environmental gains and an overall improvement in welfare.

99. The OECD has developed guidelines on international environmental cooperation to address transboundary, regional or global environmental concerns. The negotiation and implementation of environmental policies and agreements among the countries concerned would assist governments in enhancing the effectiveness of environmental action and avoiding undue effects on trade.[72]

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[70] It is sometimes mentioned that arrangements which may involve minimum standards may, in certain cases, be useful to address PPM-related issues. See, for example, Latin American Economic System (SELA), *Trade, Environment and the Developing Countries* (SP/LC/XVIII.O/Di No.2).

[71] Panayotis N. Varangis, C.A. Primo Braga and Kenji Takeuchi, *Tropical timber trade policies: what impact will eco-labelling have?*, May 10, 1993.

[72] OECD, Trade and Environment, Paris 1993 (OECD/GD(93)99).

VI. INTERNATIONAL COOPERATION ON ENVIRONMENTAL STANDARDS

100. With the growing integration of the world economy, domestic policies increasingly have international trade consequences. Experience has shown that pressures arise for harmonization of many policies that may affect international competitiveness, including environmental policies. Sectors within industry and labour favour harmonization as a means of combatting import competition and to avoid migration of pollution-intensive industries to countries with lower standards. Many environmentalists favour harmonization of process standards as a guarantee against competing deregulation: From an environmental point of view, harmonization guarantees a commitment to specified environmental objectives.[73]

101. There are, however, several arguments against harmonization. As mentioned in Part III of this document, assimilative capacities and social preferences vary across countries, so that harmonization could mask comparative advantage. Moreover, while in certain cases harmonization may be justified to address global environmental problems, countries nevertheless have different responsibilities for a number of environmental problems. On the basis of equity, therefore, a case can be made that developing countries should receive transfers of funds and technology to enable them to implement internationally agreed-upon environmental programmes.

102. When addressing the question of whether international harmonization of standards is desirable or not, a distinction must be made between product and process standards, on the one hand, and between local and transborder (regional or global) environmental problems on the other. The desired degree of international harmonization of standards will depend on specific circumstances (see Table 1 below). In addition, the desirability of harmonization from an environmental point of view can be different from the desirability of harmonization from a trade point of view.

A. Harmonization of product standards

103. The approach of the GATT Agreement on Technical Barriers to Trade (TBT) is to encourage countries to base product standards and regulations on international standards. However, it is recognized that countries may deviate, under certain conditions, from such standards. The TBT agreement explicitly states that environmental protection may be considered as a valid justification for deviating from international standards, provided that technical regulations are not applied in such a way as to create unnecessary obstacles to international trade. The TBT Agreement requires that, when countries adopt mandatory regulations which are not based on international standards, they communicate these regulations in draft form so that other countries can comment on them. The obligation to take comments into account reduces the possibility of the new regulations causing barriers to trade.

104. Uniform product standards may not be optimal on environmental and political grounds.[74] If, on the one hand, technical regulations of products were harmonized at a "low" level, some countries would be forced to endure product standards below their social optimum (the so-called "least common denominator" problem); if on the other hand, technical

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[73] Latin American Economic System (SELA), op. cit., page 9.

[74] Countries differ in physical assimilative capacities, the degree to which assimilative capacity is currently exploited and their willingness to pay for higher environmental quality and to tolerate environmental risks. These differences suggest that appropriate environmental standards will differ from country to country and indeed among regions within a country.

regulations were harmonized at a "high" level, other countries would be forced to endure product standards more costly then their circumstances warrant.[75]

105. It thus follows that a balance has to be struck between the advantages of harmonization, from a trade and transparency point of view, with the advantages, from an environmental point of view, of allowing legitimate differences in national standards. In general, it would seem natural to prefer harmonization when no good reasons for differences exist or where differences in standards may cause trade distortions.

106. In order for the determination of environmental standards to involve countries which are geographically varied and those at different stages of development, an international process is evidently required. The ISO provides a forum for such a process, though in practice developing countries rarely engage in ISO standard-setting.

107. Once international standards have been established, certain countries may nevertheless prefer to apply higher national environmental standards than those established internationally; in these cases, safeguards such as scientific tests are required to ensure that the higher standards are not protectionist in effect. Exceptions to this rule may arise if environmental threats are particularly serious or irreversible, in which cases higher standards may be acceptable even if scientific evidence is incomplete (the "precautionary principle").[76]

108. The objectives of free trade and the desire to set standards at the national level can be reconciled through mutual recognition of standards. Under this system, a country can maintain its own national product standards but not prevent the sale within its jurisdiction of products that meet the standards in the country whose standards it recognizes.[77]

109. The issue of harmonization of product standards is one of the important issues in the context of regional free-trade and economic-integration schemes. The European Community aims at a "high level of environmental protection taking into account the diversity of situations in the various regions of the Community" (Article 130(r) of the Single European Act of 1987). The Community recognizes that some member states may have difficulties in adopting and implementing high standards. The European Community thus aims at (high) minimum standards while allowing member states to set yet higher standards.[78] The Single European Act allows the EC council to adopt harmonization measures on standards by a qualified majority. However, member States are allowed to adopt higher standards provided they are not a means of "arbitrary discrimination or a disguised restriction on trade". The Community thus allows countries such as the Netherlands, Germany and Denmark to adopt more stringent measures than the agreed-upon Community position. At the same time it al-

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[75] Pearson, C.S. and R. Repetto, op. cit.

[76] In fact it is not always possible to justify stricter standards purely on scientific grounds. Some element of risk assessment may have to play a part.

[77] In the European Community the concept of mutual recognition was made explicit in the Cassis de Dijon decision by the European Court in 1979. German importers of Cassis de Dijon, a low-alcohol (15 to 20 per cent) liquor produced in France, were refused an import license on the grounds that German laws require that any product sold as a liquor must have a minimum alcohol content of 32 per cent. The European Court held that the German regulation had no legitimate public health justification and that therefore Community trade principles took precedence over German law. The decision explicitly stated that nations were free to maintain and enforce their own regulations for products produced within their jurisdiction but that they could not legally prevent their citizens from consuming products that met the legal standards of another member state of the Community. See David Vogel, *Protective Regulation and Protectionism in the European Community, The Creation of a Common Market for Food and Beverages*. Paper prepared for the biennial conference of the European Community Studies Association, George Mason University, Virginia, May 1991. CCC Working Paper No 91-5.

[78] Pearson, C.S., op. cit.

lows temporary derogations, coupled with financial assistance from an environmental fund if the measure involves disproportionate cost for the public authorities of a member State.[79]

110. The United States-Canada Free Trade Agreement (FTA) allows countries to establish domestic standards in keeping with how they perceive their national interests. The FTA does, however, encourage harmonization and has established a consultative process to facilitate it.[80]

111. The North American Free Trade Agreement encourages upwards harmonization of product standards but affirms the right of members to choose the level of protection that each considers appropriate. Member States are allowed to adopt standards and phytosanitary measures which are more stringent than international standards, but requires that the standards have a scientific basis.

B. Harmonization of process standards

112. Because it is generally accepted that a country's solution to domestic environmental problems should be based on its own policy decisions and evaluations, reflecting its own economic conditions and social preferences, demands for harmonization of production standards are difficult to justify. With the exception of processes and production methods that have transborder environmental impacts or affect the global commons, the harmonization of process standards is not required.

113. Harmonization of process standards methods may even be undesirable to the extent that it masks comparative advantage. It is indeed widely accepted that differentiation of process standards across countries may be justified. For instance, the Polluter Pays Principle, adopted by the OECD, recognizes that: "Differing national environmental standards, for example with regard to the tolerable amount of pollution, are justified by a variety of factors including, among other things, different pollution assimilative capacities of the environment in the present state, different social objectives and priorities attached to environmental protection and different degrees of industrialization and pollution density."[81]

C. Transborder, regional and global environmental problems

114. There is wide agreement that measures addressing transfrontier and global environmental problems should, as far as possible, be based on international consensus. The objective is to achieve the environmental targets at minimal cost to the international community, while at the same time ensuring that no party is made worse off by the proposed agreement. International externalities require regional or global agreement on norms and standards (which, however, may be differentiated) and raise the question of the distribution of the cost of environmental protection and improvement between countries. Equity considerations also dictate that agreements encourage the transfer of technology and capital in order to facilitate the achievement of environmental objectives.

D. Need for further international cooperation

115. From the above it follows that some harmonization of environmental product standards and regulations is desirable from a trade and transparency point of view. There may be legitimate reasons for countries to deviate, under certain conditions, from international

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[79] Cameron J. and J. Robinson, "The Use of Trade Provisions in International Environmental Agreements and their Compatibility with the GATT." in Yearbook of International Environmental Law, Volume 2, 1991.

[80] Pearson, C.S., op. cit.

[81] See: OECD (1972), Recommendation of the Council on Guiding Principles Concerning International Aspects of Environmental Policies (Annex, paragrah 6).

standards. International cooperation in the area of product standards must aim at reducing adverse trade effects resulting from differences of product standards and regulations, through the establishment of internationally agreed-upon standards, mutual recognition of national standards or the acceptance of "equivalent" standards.

Table 1

A possible approach for harmonization of environmental standards

	Type of environmental problem	
Standards/ trade measures	**Local/national**	**Transborder, regional and global**
Related to products	International standards are desirable from a trade and transparency point of view.	Harmonization is justified.
	Differences in standards are justified from an environmental point of view.	
	Complementary trade measures against non-complying imports may be justified.	Trade measures may be justified in the framework of international agreements, but positive incentives are to be preferred.
Related to PPMs	Harmonization is difficult to justify from both a trade and environmental point of view.	Harmonization may be justified for emission standards.
	Trade measures are difficult to justify.	Trade measures may be justified in the framework of international agreements, but positive incentives are to be preferred.

116. The international community may find it desirable to harmonize the scientific and environmental basis for nations to set their own standards, rather than the standards them-

selves.[82] In this context, a distinction could be made between those regulations that determine the allowable degree of environmental risks (for example pesticide residues in food) and those that determine how risk should be assessed (e.g., testing protocols, required data submissions, etc.). Countries may accept different levels of risk but nevertheless find it useful to agree on internationally acceptable methods of risk assessment. Harmonization of risk assessment requirements and procedures also reduces the cost to producers and traders.[83]

117. International cooperation in the area of eco-labelling can help to maximize the contribution of this instrument to the achievement of environmental policy objectives and minimize the risk of acting as a barrier to trade.

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[82] Zarsky, L., op. cit.

[83] Pearson, C.S. and R. Repetto, op. cit.

VII. STRENGTHENED INTERNATIONAL COOPERATION - SUMMARY AND CONCLUSIONS

118. Sustainable development requires a dynamic international economy and sound domestic policies. Sustainable-development policies in developing countries and countries in transition must be supported by open markets, financial assistance and technical cooperation. Trade and trade liberalization, including the reduction of tariffs (and tariff escalation) and non-tariff measures (especially in agriculture) can make a substantial contribution to sustainable development.

119. Trade restrictions are usually not "first best" or even "second best" policy relative to achieving environmental purposes. Such restrictions may be counterproductive in the pursuit of sustainable development and put strains on the international trading system.

120. The efforts of individual countries to promote the internalization of externalities should be encouraged and given wide international support through positive measures. The achievement of sustainable development without resort to trade restrictions requires international cooperation, based on the Rio Declaration and Agenda 21. Such cooperation should aim at accelerating development, maintaining an open trading system and building institutional capacity to integrate trade and environment policies in the framework of national policies for sustainable development.

121. International cooperation should be based on the principle that all countries have a common but differentiated responsibility for the main environmental problems. Furthermore, since resource endowments, assimilative capacities and social preferences vary considerably across countries, one should take into account that harmonization of standards is not always appropriate.

122. This document has identified a number of areas where strengthened international cooperation may be particularly relevant to increasing the mutual supportiveness of environmental and trade policies. Important objectives of strengthened international cooperation in the field of trade and environment are as follows:

(i) Expand the trading opportunities for developing countries

123. Improved market access for developing country exports, in conjunction with sound environmental policies, contributes to sustainable development. UNCTAD's work on market access and commodity issues, in accordance with its long-standing mandate on trade and development, is of particular relevance in the context of promoting sustainable development through trade.

124. The examination of the more specific relationship between environmental factors and export opportunities for developing countries has been included in the work programme of the Ad Hoc Working Group on Trading Opportunities for Developing Countries. Discussions may, among other things, refer to ways and means of promoting trade from developing countries in the light of environmental regulations and consumer preferences for "green" products in the major markets.

(ii) Prevent trade conflicts and maintain an open trading system

125. As recognized in Agenda 21, an open multilateral trading system, supported by the adoption of sound environmental policies, has a positive impact on the environment and contributes to sustainable development.

126. In practice, many environmental policies have been successfully implemented without any conflict with the international trading system. Nevertheless, potential conflicts arise, for example, from pressures to offset the competitiveness effects of differences in environmental policies and standards between countries. Trade restrictions, such as countervailing duties, to offset cost differences may lead to trade distortions and increased protectionist tendencies and hence should be resisted.

127. Environmental problems should as far as possible be resolved through appropriate macroeconomic and environmental policies. In addition, trade conflicts may be avoided through international consultations and international cooperation.

(iii) Seek greater coherence between various policies and measures implemented by individual countries

128. UNCTAD VIII identified this as an important objective of international cooperation. Greater coherence may require better coordination of environmental policies (e.g., in the areas of recycling policies and combatting global warming) and some harmonization of environmental product standards. A possible approach towards harmonization of standards and regulations is indicated in Table 1 of the document.

129. International cooperation should ensure that regulations as well as certain criteria being developed in the framework of eco-labelling schemes, which are being designed in the light of environmental concerns in the OECD countries, have no unintended effects on sustainable-development policies in developing countries.

(iv) Prevent the detrimental effects of environmental policies and measures on economic growth of developing countries

130. This objective requires, among other things, an analysis of the impact of environment-related standards and regulations on international competitiveness, especially with regard to developing countries. The need to comply with environmental product regulations in developed-country markets may result in serious obstacles to trade for developing country exporters, even when standards are internationally agreed-upon or when national standards are in accordance with the MFN and national treatment requirements.

131. International cooperation is needed to minimize the negative effects of environmental product regulations on trading partners, particularly the developing countries. To the greatest possible extent, the impact of product regulations on trading partners, in particular exporters in developing countries and countries in transition, must be considered at the early stages of the development of new product regulations. An important question is how the special conditions and development needs of developing countries can receive adequate attention in the decision-making process. Negative effects on developing countries can also be prevented or reduced through increased transparency, early notification, and technical assistance.

132. In the case of eco-labelling, the development of criteria and the selection of product categories should take account of the export interests of developing countries. Care should be taken to ensure that eco-labelling programmes for products which are of special interest to developing countries reflect the concerns of these countries.

133. The adjustment of UNCTAD's Trade Control Measures Data Base to include environmental measures that may have an impact on trade and dissemination of such information to developing countries will contribute to greater transparency of national environmental measures and assist developing countries in framing their export policies in the knowledge

of the requirements of their major export markets. UNCTAD's technical assistance projects will further contribute to these efforts.

(v) Seek greater integration of trade and environmental policies

134. There is a need for greater integration of environmental and trade policy-making. Increased transparency and consultation will assist in developing and implementing national policies for sustainable development and minimize the risks that policies in one area have unintended effects on another area. The OECD procedural guideline on transparency and consultation contains useful recommendations for moving towards greater integration.

135. An examination of country experiences in integrating environmental and trade policies at the national level, including institutional aspects of trade and environmental policy-making, is of great interest. UNCTAD's technical cooperation projects will contribute to developing-country efforts in this field. Increased awareness and understanding of the linkages between trade and environment and building of institutional capacities are among the purposes of these projects. In some countries, studies on trade and environment linkages initiated under the project "Reconciliation of environmental and trade policies" have contributed to interministerial coordination in considering the issues. Institutional arrangements may be made to facilitate work on trade and environment linkages on a continued basis.